

Notice of Allowability

Application No.

09/707,816

Applicant(s)

SUGAWARA ET AL.

Examiner

Tom V. Sheng

Art Unit

2677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 6/10/2005.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Norman Soloway on 8/29/2005.

Rejoin claims 2, 6, 10 and 14.

Cancel claims 17-32.

Allowable Subject Matter

2. Claims 1-16 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The claimed invention is directed to analog gamma compensation of respective red, green and blue video signals according to the transmittance characteristics of the respective colors. This is achieved by independently generating reference voltages for respective gamma compensating circuits for the respective color video signals, resulting in optimally compensated respective color video signals.

Independent claim 1 identifies the uniquely distinct features, "supplying to a separate gamma compensating circuit for each a red video signal, a green video signal and a blue video signal, independently generated reference voltages, said reference

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voltages generated based upon each a red transmittance characteristics, a green transmittance characteristics and a blue transmittance characteristics.”

Independent claim 5 identifies the uniquely distinct features, “wherein said second gamma compensation is performed by supplying references voltages to each of said plurality of gamma compensating circuits, said reference voltage specific to said red transmittance characteristic, said green transmittance characteristic and said blue transmittance characteristic.”

Independent claim 9 identifies the uniquely distinct features, “a first gamma compensating circuit for applying a gamma compensation only to a red video signal so as to be suitable only for a red transmittance characteristic”, “a second gamma compensating circuit for applying a gamma compensation only to a green video signal so as to be suitable only for a green transmittance characteristic”, “a third gamma compensating circuit for applying a gamma compensation only to a blue video signal so as to be suitable only for a blue transmittance characteristic”, and “a reference voltage generating circuit for supplying respectively independently generated reference voltages to said first gamma compensating circuit, said second gamma compensating circuit and said third gamma compensating circuit.”

Independent claim 13 identifies the uniquely distinct features, “a first gamma compensating circuit for applying a gamma compensation only to a red video signal ... so as to be suitable only for a red transmittance characteristic”, “a second gamma compensating circuit for applying a gamma compensation only to a green video signal ... so as to be suitable only for a green transmittance characteristic”, “a third gamma

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compensating circuit for applying a gamma compensation only to a blue video signal ... so as to be suitable only for a blue transmittance characteristic", and "a reference voltage generating circuit for supplying respectively independently generated reference voltages to said first gamma compensating circuit, said second gamma compensating circuit and said third gamma compensating circuit."

Kobayashi et al. (US 6,483,496 B2) teaches a circuit designed to provide optimum brightness level for each color by providing respective brightness reference voltage data during the blanking period. However, optimizing for brightness is not equivalent to optimizing for gamma compensation. Moreover, Kobayashi does not teach above independently generated reference voltages to the respective gamma compensation circuits.

Kaburagi et al. (US 6,160,532) teaches a secondary gamma correction circuit that performs gamma corrections separately for respective red, green and blue LCD panel according to respective T-V characteristics. However, this is performed digitally via slope and offset data and does not correspond to above independently generated reference voltages to the respective gamma compensation circuits.

Ohi (US 5,483,256) teaches analog compensation of respective red, green and blue video signals by a set of common gamma reference voltages V_{rl} , V_{rm} and V_{rh} . Ohi does not consider the differences in transmission characteristics between the colors. Ohi does not teach independently generated reference voltages to the respective gamma compensation circuits. Admitted Prior Art is similar to the Ohi reference.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
August 30, 2005


DENNIS-DOON CHOW
PRIMARY EXAMINER